Business Method Patents and the International Harmonization of Patent Laws

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(Received : November 1, 2011 ; Accepted : December 14, 2011)

Abstract

Patent law is a species of Intellectual Property (IP) law which also usually encompasses trademarks, copyright, industrial design, and trade secret laws. It recognizes the rights of innovators relating to the use of their inventions and thereby fosters innovation and creativity as well as knowledge and industrial development. With the advent of the knowledge-based economy, the emphasis on IP rights has increased as nations have recognized their importance as a means to maintain international competitiveness and promote economic growth. At the same time there has also been a greater push to bring about the international harmonization of IP laws so as to provide a uniform and stable worldwide environment for technological and other innovation. Efforts to harmonize the laws relating to each component of IP have been proceeding along separate tracks. The present paper deals with patent laws only. Efforts to harmonize procedural aspects of patent law have made considerable progress by means of the Patent Law Treaty which came into effect in 2005. However, efforts to harmonize substantive areas of patent law have been progressing slowly. One new factor complicating the efforts to harmonize substantive patent law is the recent recognition of business methods as patentable subject matter in addition to the scientific and technological innovations that have traditionally been the province of patent law. Business method patents surged to prominence in 1998 after the judgment of the U.S. Court of Appeals for the Federal Circuit in the case of ***State Street Bank and Trust Co. v. Signature Financial Group.*** Their validity has been reconfirmed by the U.S. Supreme Court in 2010 in the case of ***Bilski v. Kappos.*** The issue of business method patents has gained worldwide attention and different nations, including Japan, have been developing diverse approaches to deal with the issue. This paper seeks to present some observations relating to business method patents and the implications they entail for

the international harmonization of patent law.

> *Innovation is the specific tool of entrepreneurs, the means by which they exploit change as an opportunity for a different business or a different service.*[1]
>
> Peter Drucker
>
> *Innovation and Entrepreneurship*

Ⅰ. Introduction:

Intellectual Property rights usually encompass rights relating to patents, copyrights, trademarks, patents, industrial design, and trade secrets. Their principal purpose is to foster creativity and innovation and thereby promote economic development.[2] Due to the rapid development of information technology in recent decades and the consequent advent of the knowledge-based economy, the need to protect IP rights has surged in importance. Nations around the world have recognized the overriding importance of creativity and innovation for promoting economic development and international competitiveness. A case in point is the aim declared by the Japanese government in 2002 to make Japan "a nation built on intellectual property."[3]

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[1] Peter Drucker, *Innovation and Entrepreneurship,* Chapter 1, The Practice of Innovation, (1985, Harper and Row, Publishers, Inc.).

[2] *World Intellectual Property Handbook: Policy, Law and Use* explains it thus:

> 1.1 ... Countries have laws to protect intellectual property for two main reasons. One is to give statutory expression to the moral and economic rights of creators in their creations and the rights to the public in access to those creations. The second is to promote, as a deliberate act of Government policy, creativity and the dissemination and application of its results and to encourage fair trading which would contribute to economic and social development.
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> 1.2 Generally speaking, intellectual property law aims at safeguarding Creators and other producers of intellectual goods and services by granting them certain time-limited rights to control the use made of those productions.
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> Available at: http://www.wipo.int/export/sites/www/about-ip/en/iprm/pdf/ch1.pdf

[3] *Intellectual Property Policy Outline,* Strategic Council on Intellectual Property, July 3, 2002. Available at: http://www.kantei.go.jp/foreign/policy/titeki/kettei/120703taikou_e.html#0-2. The *Outline* goes on to state:

> In the 21st century, Japan needs to discover new economic opportunity by attaching further importance to intellectual property. Creation of a

At the same time, there has been a growing impetus for the drive to bring about international harmonization of intellectual property laws in order to provide a stable and predictable environment for technological and other innovation which serves as the foundation of economic efficiency and growth. Efforts to effectuate such harmonization have been proceeding along separate tracks in respect of each of the components of intellectual property law. The present paper deals with the efforts towards the international harmonization of patent laws which are most closely tied to technological innovation and industrial growth.

Patent law has traditionally been related to scientific and technological innovation. It grants innovators exclusive rights to the use of their inventions for a limited period of time. In exchange for the grant of this right, the innovator is required to disclose the details of the invention. In this way, it recognizes the moral and economic rights of the inventors, and at the same time serves the interests of society at large by promoting dissemination of knowledge and information regarding the invention and the freedom to exploit its use after the lapse of the stipulated period of the inventor's exclusive right.

Within the realm of patent laws, the progress towards harmonization has been proceeding along two sub-tracks: (i) procedural aspects such as filing dates, form, and content of patent applications, representation; and (ii) substantive aspects such as novelty, non-obviousness, inventive step, claim drafting, etc. Considerable progress has already been made in respect of the procedural aspects of patent law by means of the Patent Law Treaty which came into force on April 28, 2005. Work towards a comprehensive patent law treaty, although initiated in May 2001 remains inconclusive.

The difficulty of achieving international harmonization of substantive patent law has been further compounded by the recent recognition of business methods as patentable subject matter. Patent protection has been historically afforded principally to

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vision toward this end is itself a pressing issue. This outlined is a concrete presentation of the strategy to promote in a timely manner high-quality intellectual property, exploit this property and make it a source of national wealth.... Reform toward development of this cycle of intellectual creation is indispensable to pave the way to the future for Japan. With the national goal of becoming a nation built on intellectual property, Japan will be able to maintain its position as a world leader in many fields of industry and culture if comprehensive policies are carried out without delay.

(Chapter 1 (1).

scientific and technological inventions. However, the 1998 judgment of the U.S. Federal Court of Appeals in *State Street Bank and Trust Co. v. Signature Financial Group*[4], for the first time, accorded judicial recognition to the grant of a patent for a business method. The judgment propelled the issue of business method patents to prominence and it remains controversial. By its June 2010 judgment in the case of *Bilski v. Kappos*[5], the U.S. Supreme Court reaffirmed the validity of patents on certain processes that could accurately be described as business methods.

The *State Street* judgment triggered a surge of business method patent applications that caused the issue to attract worldwide attention.[6] Different countries have been developing different approaches to deal with the issue of business method patents. The law relating to the issue continues to evolve in diverse ways.

This paper presents an overview of the prevailing situation relating to business method patents and the implications that they have for the international harmonization of patent law. For this purpose, this paper has been structured as follows: After the present introduction, part II sets out the progress of international efforts towards harmonization of patent law; part III sets out the development of the law relating to business method patents in the United States; part IV sets out the law relating to business method patents in Japan and a few other selected countries of the world; part V sets out some observations relating to business method patents and the international harmonization of patent laws; and Part VI ends with a brief conclusion.

II. International Efforts to Promote the Harmonization of Patent Laws:

Efforts to harmonize patent laws have been afoot since 1883. These efforts have gained particular momentum in recent years.[7] Following is a brief mention of the major

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[4] *State Street Bank and Trust Co. v. Signature Financial Group,* 149 F.3d 1368 (Fed. Cir.1998).

[5] Bilski v. Kappos, 561 U.S. ____ (2010), 130 S. Ct. 3218, 177 L. Ed. 2d 792 (2010).

[6] Applications for business method patents surged from fewer than 1,000 in 1997, that is before the *State Street* judgment, to 7800 in 2000, 8700 in 2001 and were more than 17,000 in 2010. [2010 data from the United States Patent and Trademark Office Website: Class 705 Application Filing and Patents Issued Data] Available at: http://www.cafc.uscourts.gov/images/stories/opinions-orders/07-1130.pdf.
1997 data from Judge Mayer's dissenting judgment in In Re: Bilski , 545 F.3d 943, 1000 (Section IV).Previous data from
http://www.uspto.gov/web/menu/pbmethod/applicationfiling.htm.

[7] For example, the "Leahy-Smith America Invents Act" which was signed into law by the U.S. President on September 16, 2011 states in the relevant part:

steps towards such harmonization.

1. Paris Convention for the Protection of Industrial Property:

The first major international treaty relating to patent law was the Paris Convention for the Protection of Industrial Property, which was signed on March 20, 1883, and later revised in 1900, 1911, 1925, 1934, 1958, and 1967, and finally amended in 1979.[8] The Paris Convention continues to remain in force. It covers within its ambit, ***inter alia***, patents, utility models, industrial designs, trademarks, and trade names. The impetus for the Convention came from a reluctance on the part of potential participants to attend the 1873 International Exhibition of Inventions in Vienna out of fear that their ideas would be stolen. This highlighted the need for protection of intellectual property rights.[9]

2. Convention Establishing the World Intellectual Property Organization:

The Convention was signed at Stockholm on July 14, 1967. It entered into force on April 26, 1970. It was later amended on September 28, 1979. The World Intellectual Property Organization (WIPO), established under the Convention, became a specialized agency of the United Nations in 1974.

Article 3 describes one of the objectives of the Organization as being "(i) to promote the protection of intellectual property throughout the world through

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> Section 3 (p): SENSE OF CONGRESS: It is the sense of Congress that converting the United States patent system from "first to invent" to a "first inventor to file" will improve the United States patent system and promote harmonization of the United States patent system with the patent systems commonly used in nearly all other countries throughout the world with whom the United States conducts trade and thereby promote greater international uniformity and certainty in the procedures used for securing the exclusive rights of inventors to their discoveries.

Available at:http://www.uspto.gov/aia_implementation/bills-112hr1249enr.pdf.
So also, in March 1999 the Japan Patent Office issued a statement entitled "Towards the International Harmonization of Industrial Property Rights Systems in the 21st Century," which set out the JPO's recognition of the need for such harmonization. Available at http://www.jpo.go.jp/shiryou_e/toushin_e/shingikai_e/chapter2htm.

[8] The precise dates of revision are as follows: December 14, 1900 at Brussels; June 2, 1911, at Washington; November 6, 1925 at The Hague; June 2, 1934 at London; October 31, 1958 at Lisbon; and July 14, 1967 at Stockholm. It was amended on September 28, 1979.

[9] WIPO Treaties – General Information, World Intellectual Property Organization, available at http://www.wipo.int/treaties/en/general/.

cooperation among States and, where appropriate, in collaboration with any other organization."[10] Under Article 2 (viii), intellectual property rights include, inter alia, rights relating to scientific works, inventions, scientific discoveries, and industrial designs.

2. Patent Cooperation Treaty:

The Patent Cooperation treaty was signed on June 19, 1970 and came into effect on January 24, 1978. It was later amended on September 28, 1979 and modified on February 3, 1984, and on October 3, 2001. Open to all signatory States of the Paris Convention, the Treaty provides for the filing of an international patent application simultaneously in many countries.

3. Convention on the Unification of Certain Points of Substantive Law on Patents for Invention;

Also referred to as the Strasbourg Patent Convention, it was signed on November 27, 1963 in Strasbourg by the member States of the Council of Europe and entered into force on August 1, 1980. The Convention aims to harmonize substantive patent law among countries belonging to the Council of Europe.

4. The Convention on the Grant of European Patents:

Also referred to as the European Patent Convention, it was signed on October 5, 1973 in Munich. It was subsequently revised in November 2000 in Munich. The principal effect of the Convention was the institution of the European Patent Organisation and the provision of a legal procedure for the grant of a European Patent by application to the European Patent Office.

5. Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS):

The TRIPS agreement was negotiated in 1994 at the Uruguay Round of the General Agreement on Tariffs and Trade. It is administered under the aegis of the World Trade Organization (WTO). The TRIPS agreement sets out the minimum standards for intellectual property rights protection (including patent rights) that must be met by all member States of the WTO.

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[10] Convention Establishing the World Intellectual Property Organization, available at http://www.jpo.go.jp/shiryou-e/s-sonota-e/fips-e/wipo/cew/chap1.htm#art3.

6. Patent Law Treaty (PLT):

The Patent Law Treaty was concluded on June 1, 2000 and entered into force on April 28, 2005. It is open to all the member States of the World Intellectual Property Organization and all those party to the Paris Convention for the Protection of Industrial Property. The Treaty seeks to harmonize only the procedural aspects relating to patent applications among the States party to the treaty.

2. Substantive Patent Law Treaty:

Efforts to harmonize the substantive aspects of patent law worldwide are currently a work in progress. In May 2001, the Standing Committee on the Law of Patents (SCP), in the fifth session since its institution, initiated discussions on a draft Substantive Patent Law Treaty. Discussions have continued since then in subsequent sessions but remain inconclusive. The most recent session of the SCP, its seventeenth session was held from December 5 to 9, 2011.

III. Business Method Patents in the United States:

The issue of Business Method Patents surged to prominence and notoriety in 1998 with the judgment of the U.S. Court of Appeals for the Federal Circuit in the case of *State Street Bank & Trust Co., v. Signature Financial Group, Inc.*[11] *(State Street).* In this case the Court departed from the traditional understanding based upon historical practices that patentable subject-matter necessarily required an industrial or technological element under U.S. Patent law.

The U.S. Patent law is embodied in Title 35 of the United States Code. It derives its mandate from Section 8, Clause 8 of the U.S. Constitution which vests Congress with the power "[t]o promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."[12]

[11] *State Street Bank & Trust Co., v. Signature Financial Group, Inc.,* 149 F.3d 1368 (1998).
[12] U.S. Constitution Article 1, section 8 (8).

The relevant provisions of Title 35 of the U.S. Code relating to the conditions for patent eligibility are set out in Sections 101, 102, 103, and 112.

Section 101 states that patentable subject matter includes "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof."[13] The word "process" is defined in Section 100(b) as a "process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material."

In addition to being new and useful under section 101, section 102 requires that the claimed "process, machine, manufacture, or composition of matter" must be "novel" as described in that section, and section 103 requires that it must be non-obvious to "a person having ordinary skill in the art."

Until the judgment of the U.S. Court of Appeals in ***State Street*** the ambit of patent law as conventionally understood was restricted to matters relating to scientific inventions and not mere methods of organizing commercial activity[14].

This was the dominant position as reflected in the opinions of the federal courts,[15] as well as the position, for the most part, of the United States Patent and Trademark Office (USPTO).[16]

Before the Judgment of the U.S. Court of Appeals in ***State Street,*** the U.S. Supreme Court had not had occasion to rule directly on the patentability of business methods per se.

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[13] The word "process" replaced the previous word "art" in the recodified patent law of 1952.

[14] In his dissenting judgment almost a decade later in the case of ***In Re: Bilski,*** 545 F.3d 943, 88 U.S.P.Q. 2d 1385 (Federal Circuit 2008). Judge Mayer insisted that "[t]he patent system is intended to protect and promote advances in science and technology, not ideas about how to structure commercial transactions." Judge Mayer's dissent presents an elaborate and eloquent statement of the longstanding historical view.

[15] See: ***Loew's Drive-In Theatres, Inc. v. Park-In Theatres, Inc.,*** 174 F.2d 547, 552 (1st Circuit, 1949), ***In Re Patton,*** 127 F.2d 324 (Court of Customs and Patent Appeals 1942), ***Hotel Security Checking Co., v. Lorraine Co.,*** 160 F. 467 (2d Circuit 1908).

[16] ***Ex parte Abraham,*** 1869 Dec. Commissioner of Patents 59 (1869).

The most significant cases relating to the issue of subject matter patentability were three well-known cases decided by the U.S. Supreme Court over the course of a decade, namely, *Gottschalk v. Benson*[17] (1972), *Parker v. Flook*[18] (1978), and *Diamond v. Diehr*[19] (1981). In *Gottschalk v. Benson* and *Parker v. Flook*, the U.S. Supreme Court had identified three categories of subject matter as being unpatentable: "laws of nature, natural phenomena, and abstract ideas."[20] In *Diamond v. Diehr* the Court qualified this principle by holding that when the claim related to a process that involved "transforming or reducing an article to a different state or thing," it was patentable.

In the 1980 case of *Diamond v. Chakrabarty,*[21] the U.S. Supreme Court judgment contained the following statement:

> The Committee Reports accompanying the 1952 Act informs us that Congress intended statutory subject matter to "include anything under the sun that is made by man." S.Rep.No.1979, 82d Cong., 2d Sess., 5(1952); H.R.Rep.No.1923, 82d Cong., 2d Sess., 6 (1952).

This was often construed to mean that apart from the specifically identified exceptions, the Supreme Court took an expansive view of patent subject matter validity.[22]

In *State Street Bank and Trust Co. v. Signature Financial Group,*[23] the U.S. Federal Court of Appeals for the Federal Circuit was called upon to consider the patentability of a specialized data processing system for a "partner fund financial services configuration," a specialized aspect of the work performed by mutual funds. The U.S. District Court for the District of Massachusetts had by a summary judgment declared the patent granted by the USPTO invalid on the ground that it fell into two categories of judicially-created exceptions relating to patent subject matter validity: the "mathematical algorithm" category and the "business method" category.

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[17] *Gottschalk v. Benson,* 409 U.S. 63 (1972).

[18] *Parker v. Flook,* 473 U.S. 584 (1978).

[19] *Diamond v. Diehr,,* 450 U.S. 175 (1981).

[20] *Diamond v. Diehr, id.,* 450 U.S. 175, at 185 (1981).

[21] Chief Justice Burger, *Diamond v. Chakrabarty,* 447 U.S. 303.

[22] See e.g., *State Street Bank and Trust Co. v. Signature Financial Group,* 149 F. 3d 1368, at 1373., *In re Alappat,* 33 F.3d 1526, at 1542, and *AT&T Corp. v. Excel Communications, Inc.,* 172 F.3d 1352. See also the *Manual of Patent Examining Procedure* issued by the USPTO (Eighth Edition, Eighth Revision, July 2010), Section 2106, IV. A.

[23] *State Street Bank and Trust Co. v. Signature Financial Group,* 149 F. 3d 1368, *supra* note 4.

Regarding the mathematical algorithm exception, the U.S. Federal Court of Appeals followed the "useful, concrete, and tangible result" test that it had earlier laid down in *In Re: Alappat,*[24] and held the patent valid.

> Specifically regarding the "business method" exception, the Court stated:
> We take this opportunity to lay this ill-conceived exception to rest. Since its inception, the "business method" exception has merely represented the application of some general, but no longer applicable legal principle.... Since the 1952 Patent Act, business methods have been, and should have been, subject to the same legal requirements for patentability as applied to any other process or method [Internal footnote omitted].[25]

The Court noted that rulings in earlier cases purporting to establish the business method exception had in fact been based upon some other incontrovertible statutory or judicially created exception. The Court also noted a change in the Manual of Patent Examining Procedures in 1996, and the U.S. Patent and Trademark 1996 Examination Guidelines for Computer Related Inventions which directed claim examiners to treat business method related claims like other process claims, as indicating that the USPTO too had backtracked on its earlier stance relating to the business method exception.[26]

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[24] *In Re: Alappat,* 33 F.3d 1526 at 1544, 31 USPQ2d 1545 at 1557.

[25] *State Street, supra* note 8, at 1375.

[26] In this connection, see John F. Duffy, *Why Business Method Patents?* , 63 Stanford Law Review 1247. Duffy persuasively argues that the change in the USPTO's stance and the legal position regarding the patentability of business methods was an inevitable response to the technological developments in recent decades and to the transformation of vast areas of business and finance into fields of engineering, thereby obfuscating the lines of demarcation between business and science. Commenting on the surge in business method patents in recent years, Duffy writes:

> [B]usiness method patents are now being issued at the rate of hundreds or even thousands per year, including dozens or hundreds of patents in such core business areas as finance. Moreover, even a cursory look beyond the PTO reveals the technological and industrial realities that are driving the rise in business method patents, with a growing appetite on Wall Street for financial engineering and other business technologies; a burgeoning literature on business technology and the engineering of business; and an expanding set of courses, programs, and even laboratories at major universities that are dedicated to researching and teaching the modern technology and engineering of business. In the long run, the law will serve those realities. [*Id.* at 1285.]

Subsequently, in 1999, the Court reiterated its stance in ***AT&T Corp. v. Excel Communications, Inc.***[27] The Court stated:

> In our recent decision in State Street, this court discarded the so-called "business method" exception and reassessed the "mathematical algorithm" exception, ... , both judicially created "exceptions" to the statutory categories of 101. As this brief review suggests, this court (and its predecessor) has struggled to make our understanding of the scope of 101 responsive to the needs of the modern world.[28]

The issue of business method patents came up for the consideration of the U.S. Court of Appeals for the Federal Circuit again in 2008 in the case of ***In Re: Bilski.***[29] The claim involved a method of hedging risk related to commodities trading and at issue was the question whether it was a patentable "process" within the meaning of Section 101 of the Patent Statute.

The Court heard arguments in the case en banc. Upon reviewing the case law, and in particular, the judgments of the Supreme Court in ***Benson***, ***Flook***, and ***Diehr***, a majority of nine judges held that a process would be patent-eligible "if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing,"[30] and that this was the sole test for determining the patent eligibility of a process.[31] Applying this test the Court of Appeals held that the claimed process was not eligible for a patent.

While doing so, the court expressly set aside the "useful, concrete and tangible result" test set out in ***State Street*** and ***AT&T.***[32] Although the U.S. Court of Appeals reaffirmed the holding in ***State Street*** that the patentability of business methods should be examined by the same criteria as any other process, the machine-or-transformation test rendered the continuing viability of business method patents questionable.

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[27] ***AT&T Corp. v. Excel Communications, Inc.***, 172 F. 3d 1352 (1999)

[28] ***Id.***, Available at: http://www.ll.georgetown.edu/federal/judicial/fed/opinions/98opinions/98-1338.html.

[29] ***In re: Bilski,*** 545 F.3d 943 (2008).

[30] ***Id.***, at 954.

[31] ***Id.***, at 955.

[32] ***Id.*** at internal page 20, footnote 19. Available at: http://www.cafc.uscourts.gov/images/stories/opinions-orders/07-1130.pdf.

The judgment of the U.S. Court of Appeals for the Federal Circuit was appealed against, and the U.S. Supreme Court delivered its judgment in the case of ***Bilski v. Kappos*** on June 28, 2010.[33] The Court was required to rule on three points: (1) whether the claimed invention was not patent-eligible merely because it did not meet the criteria of the machine-or-transformation test; (2) whether it was not patent eligible because it was merely a method of carrying on business; and (3) whether it was not patent eligible because it was merely an abstract idea.

Regarding (1) and (3), the Court held unanimously that the machine-or-transformation test was not the sole test for determining the patent-eligibility of a process although it is a "useful and important clue"[34] for determining such eligibility, and that the claimed inventions were not patent eligible because they were merely abstract ideas.

Regarding (2), the Court held by a narrow 5 to 4 majority that subject to statutory limitations or limitations consistent with the statute, "the Patent Act leaves open the possibility that there at least some processes that can be fairly described as business methods that are within patent patentable subject matter under Section 101."[35] Four Justices were of the opinion that even though a process may be "useful for conducting business, a claim that merely describes a method of doing business does not qualify as a 'process' under Section 101."[36]

This is the present state of the law relating to business method patents in the United States.[37]

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[33] ***Bilski v. Kappos***, 561 U.S. ____ (2010), 130 S.Ct.3218.

[34] ***Id.***, Opinion of Kennedy, J. at internal page 8.

[35] ***Id.*** Opinion of Kennedy J. at internal page 12.

[36] ***Id.*** Justice Stevens, concurring in judgment, at internal page 3.

[37] Under the U.S. Patent Classification System maintained by the USPTO, business method patents are covered in Class 705 which "encompasses machines and their corresponding methods for performing data processing or calculation operations, where the machine or method is utilized in the 1) practice, administration, or management of an enterprise, or 2) processing of financial data, or 3) determination of the charge for goods or services." USPTO White Paper — Automated Business Methods – Section III Class 705. Available at http://www.uspto.gov/patents/resources/methods/afmdpm/class705.jsp.

Ⅳ. Laws Relating to Business Method Patents in Various Parts of the World:

The topic of patentable subject matter is dealt with in Article 27 of the TRIPS agreement. Article 27 (1) provides that "patents shall be available for any inventions, whether products or processes, in all fields of technology, provided they are new, involve an inventive step and are capable of industrial application." Article 27 (2) and (3) list those matters which can be excluded from patentability. However, although "processes" are expressly specified as being mandatorily patentable, the requirement that they be in a field of technology leaves open the question whether they should or should not be granted to non-technology related business methods standing alone. Consequently, there is no consistency in the stand regarding business method patents in various parts of the world.

The following lists some of the divergent views regarding business method patents:

1. Japan:

The conditions for patentability are set out in Article 29 of the Japanese Patent Act.[38] Article 29 (1) sets out that a patent can be obtained for an "invention that is industrially applicable." An invention is defined in Article 2 (1) as "the highly advanced creation of technical ideas utilizing the laws of nature."

Further guidance is provided in the "Examination Guidelines for Patent and Utility Model in Japan"[39] issued by the Japan Patent Office. Part II Chapter 1 of the guidelines relate to "Industrially Applicable Inventions." The notes to the "list of non-statutory inventions" (1.1) of that chapter, provide that in the case of a method for doing business, the claimed invention is to be examined as a whole for determining whether

[38] An English translation of the Patent Act of Japan is available at http://www.japaneselawtranslation.go.jp/law/detail/?id=42&vm=04&re=01. The quoted words in this section are from the English translation of the original Japanese text.

[39] The English translation of the "Examination Guidelines for Patent and Utility Model in Japan" is available at the website of the Japan Patent Office at http://www.jpo.go.jp/cgi/linke.cgi?url=/tetuzuki_e/t_tokkyo_e/1312-002-e.htm. (The website cautions that if "any ambiguity of interpretation is found in this provisional translation, the Japanese text shall prevail.") The quoted words in this section are from this translation.

it utilizes a law of nature. The notes further provide that the claimed invention could also qualify for a patent as a "computer software-related invention." Part VII Chapter 1 of the guidelines relate to computer software-related inventions. Section 2.2.1 (1) of that chapter states that a computer software-related invention would qualify for a patent when "information processing by software is concretely realized by using hardware resources." The explanation goes on to elucidate this as a situation "in which software and hardware resources are cooperatively working so as to realize arithmetic operation or manipulation of information depending on" a specific purpose.

A comprehensive reading of the relevant provisions suggests that a business method would need to have a technical element for it to qualify for patent protection. Although the existence of a computer-related element could satisfy the requirement of technicality, it may not satisfy the requirement of "invention" if the method could "be easily conceived through combining publicly known means and methods by those having common knowledge on the business field related to the patent application and technological knowledge on the computer technology."[40]

2. European Patent Office:

Article 52 of the European Patent Convention provides for patentable subject matter. Article 52 (1) states that "European patents shall be granted for any inventions, in all fields of technology, provided that they are new, involve an inventive step and are susceptible of industrial application." However, Article 52 (2) (c) excludes from the definition of inventions "schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers." But 52 (3) goes on to specify that they will be excluded only to the extent that they relate to the subject-matter "as such."[41] The precise interpretation of the phrase remains unresolved.

The 2010 edition of the ***Guidelines for Examination in the European Patent Office***[42] seem to suggest a necessary technical element for qualification for a European patent.

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[40] ***Policies concerning "Business Method Patents,"*** Japan Patent Office, available at http://www.jpo.go.jp/cgi/linke.cgi?url=/tetuzuki_e/t_tokkyo_e/tt1211-055.htm. Examples cited of non-inventions are: "Application of technology to another specified field," "Automation of manual tasks," and "Change of design based on artificial arrangements, etc."

[41] The European Patent Convention, available at http://www.epo.org/law-practice/legal-texts/html/epc/2010/e/ar52.html.

[42] ***Guidelines for Examination in the European Patent Office,*** available at

Part C－Chapter II 4.5 provides that "[t]he invention as claimed should be disclosed in such a way that the technical problem, or problems, with which it deals can be appreciated and the solution can be understood." So also, Part C Chapter III 2.1 provides that [t]he claims must be drafted in terms of the "technical features of the invention."[43]

3. The United Kingdom:

The prevailing position regarding business method patents in the United Kingdom was adumbrated by the Court of Appeal (Civil Division) in its joint judgment in the cases of ***Aerotel v. Telco*** and ***Macrossan's Application*** on October 27, 2006.[44] After carefully considering the practice of the European Patent Office and the United States and surveying the prevailing caselaw, the Court formulated a distinctive position regarding patentable subject matter applicable to the United Kingdom.

Following the judgment of the Court of Appeal in ***Aerotel v. Telco*** and ***Macrossan's Application***, the U.K. Patent Office issued a "Practice Notice on Patentability of Computer Programs and Business Methods," in which it recognized the test laid down by the Court as the "definitive statement" of what constituted patentable subject matter in the United Kingdom. The test as set out in the Practice Notice states:

"The test approved by the Court comprises the following steps:

* properly construe the claim
* identify the actual contribution
* ask whether it falls solely within the excluded subject matter
* check whether the actual or alleged contribution is actually technical in nature."[45]

http://www.unibas.it/ilo/Approfondimenti%5Cit_pdf_14_EPOGuidelines.pdf.

[43] For a discussion of business method patents in Europe, see Stefan Wagner, ***Business Method Patents in Europe and their Strategic Use: Evidence from Franking Device Manufacturers,*** available at http://epub.ub.uni-muenchen.de/1265/1/Wagner_bmp.pdf.

[44] ***Aerotel Ltd. v. Telco Holdings Ltd & Ors*** Rev 1 [2006] EWCA Civ 1371 (27 October 2006), available at http://www.bailii.org/ew/cases/EWCA/Civ/2006/1371.html.

[45] "Practice Notice on Patentability of Computer Programs and Business Methods," available at http:// www.gov.ipo.uk/pro-types/pro-patent/p/-pn/p-pn-subjectmatter.htm.

4. Australia:

Until 2006, business methods enjoyed wide protection under Australian patent law. That was the position taken in 2003 by the Advisory Council on Intellectual Property appointed by the Government of Australia to consider the issue of business method patents.[46] However, by a Full Court decision in the case of ***Grant v. Commissioner of Patents***[47] decided on July 18, 2006, the Federal Court of Australia made a departure from the prevailing position. In considering whether a business method entailing financial and legal consequences could be validly the recipient of a patent, the Court observed that the method in question did "not produce any artificial state of affairs, in the sense of a concrete, tangible, physical, or observable effect."[48] The Court went on to state:

> It is necessary that there be some "useful product", some physical phenomenon or effect resulting from the working of a method for it to be properly the subject of letters patent.[49]

This is the prevailing position regarding business method patents in Australia.

5. India:

Section 3 of the India Patents Act (as amended in April, 2005), lists matters that are not considered "inventions" within the meaning of the Act. Sub-section (k) of that section expressly refers to "a mathematical or business method or a computer programme per se or algorithms." This is elaborated in provision 08.03.05.10.c of the "Manual of Patent Office and Procedure." The provision is fairly categorical in excluding business methods from patentable subject matter. The provision reads:

> c. "Business Methods" claimed in any form are not patentable subject matter. The term "Business Methods" involves the whole gamut of activities in a commercial or industrial enterprise relating to transaction of goods or services. With the development of technology, business activities have grown tremendously through e-commerce

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[46] See: Advisory Council on Intellectual Property, ***Report on a Review of the Patenting of Business Systems*** (September 2003). Available at: www.acip.gov.o.u/library/bsreport.pdf.

[47] ***Grant v. Commissioner of Patents***, [2006] FCAFC 120. Available at: http://www.austlii.edu.au/cgi-bin/sinodisp/cases/cth/FCAFC/2006/120.html?query=.

[48] ***Id.***, at paragraph 30.

[49] ***Id.***, at paragraph 47.

> and related B2B and B2C business transactions. The claims are at times drafted not directly as business methods but apparently with some technical features such as internet, networks, satellites, tele-communications etc. This exclusion applies to all business methods and, therefore, if in substance the claims relate to business methods, even with the help of technology, they are not considered to be patentable subject matter.[50]

Therefore, it appears that the present position in India is that irrespective of the presence of a technical or mechanical element, the most important factor is the "substance" of what is claimed.[51]

V. Some Observations Relating to Business Method Patents and the International Harmonization of Patent Laws:

1. In a recent article in the Stanford Law Review,[52] John F. Duffy has made a persuasive case that the rise of the business method patents was contemporaneous with and tied to the importation of technological concepts and methods into the fields of business, economics, and finance. One sign of this development, Duffy points out, is the surge of "financial engineering" as a distinct discipline during the 1980s.[53] In Duffy' s telling, the surge in business method patents was a result of the mutation that the progress of science and technology had wrought in the field of business.

A "White Paper" relating to business method patents issued by the USPTO shows a similar understanding.[54] So also, the description of class 705 in the White Paper

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[50] Manual of Patent Office Practice and Procedure (As modified on March 22, 2001), Chapter 08, Examination & Grant, provision 08.03.05.10.c. available at http://ipindia.nic.in/ipr/patent/manual/HTML%20AND%20PDF/Manual%20of%20Patent%20Office%20Practice%20and%20Procedure%20-%20html/Chapter%208.

[51] The preface to the manual states that its purpose is to serve as a practical guide, that it does not have the force of law, and that it is subject to future revisions.

[52] John F. Duffy, ***Why Business Method Patents?*** 63 Stanford Law Review 1247 (2011).

[53] Duffy notes that fifteen of the top twenty engineering programs at American universities have courses relating to financial engineering either by name or by some commonly known variant such quantitative finance. So also, Harvard Business School has a course in Corporate Financial Engineering. ***Id.*** at 1269.

[54] A USPTO White Paper: Automated Financial or Management Data Processing Methods (Business Methods), available at http://www.uspto.gov/web/menu/busmethp/whitepaper.pdf. Referring to a speech by Mr. Ivan Sutherland of the Rand Corporation in September 1975, the paper states:

emphasizes the strong engineering implications of many of the applications in respect of business methods.[55]

It cannot be gainsaid that a considerable number of patents issued immediately in the wake of the *State Street* judgment were regarding frivolous matters that were not tied to science or technology in any way whatsoever.[56] It was the issuance of such business method patents that caused the issue to garner widespread attention and make it a matter of much controversy. However, for the most part, the applications relating to business methods involve an engineering or technological element. Countries at the forefront of the scientific and technological advances in recent decades, especially in the field of information technology, have a natural vested interest in the recognition of patents for engineering and technology-related business innovations as it would be to the advantage of businesses based in those countries. On the other hand, countries lagging behind have an interest in resisting such patents as it would hold back the development of industries situated in such countries. A "realist"[57] and a "rational choice"[58] perception of this situation would suggest that this is liable to serve as a major stumbling block to harmonization.

> In the mid-1990s, Mr. Sutherland's proposed "smart" communication network, now called "Electronic Commerce" or "e-commerce" began finding its niche in the business world. In recent years, the growth of the business technologies, especially the electronic commerce business industry has been phenomenal. This growth has resulted in an increase of business technology patent application filings. (Id., internal page 1).

[55] The description of class 705, under which most applications for business method patents are filed states:

> The systems and methods of Class 705 are directed to diverse business functions. However, a strong understanding of certain non-business fields is required to fully understand many inventions in this class. Patent applications being examined in Class 705 still strongly reflect the basic engineering that underlay each invention. Electrical and computer engineering (e.g., databases, communication systems) will continue to be a dominant feature of business data processing for generations to come. A strong electrical and computer engineering foundation is as important as a strong foundation in any of the diverse business functions.

(*Id.*, internal page 6).

[56] See Judge Mayer's dissenting judgment in *In Re: Bilski* for a description of a few of such patents. Judge Mayer's judgment presents a comprehensive critique of business method patents and a defense for the position that patent law is intended to cover scientific and technological innovations only. For issues relating to questionable patents, see generally: *Federal Trade Commission to Promote Innovation: The Proper Balance*

2. There is a well-recognized tension between Intellectual Property laws and Antitrust or Competition law. The right of exclusivity that is granted by Intellectual Property laws is not consonant with the anti-monopolistic concerns of Competition law.[59] For this reason, any attempt to harmonize the substantive aspects of the national IP laws of different countries cannot be done in isolation. It gives rise within each country to a concomitant need to fine-tune the domestic competition laws to allay the anti-competitive concerns.

This tension is exacerbated by the recognition of business methods as patentable subject matter, where the countervailing societal interest in promoting scientific and technological innovation is eliminated. Historically, innovation in business settings has not been curbed by a lack of governmental protection. The profit motive and entrepreneurial spirit and culture have served as the engines that drive businesses to innovate and outmaneuver their rivals. Thereby, business method patents are liable to be subjected to a higher level of scrutiny because of the anti-competitive concerns that they raise. Thereby, the pressures on the competition law schemes of countries will also be enhanced.

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of Competition and Patent Law and Policy (2003), available at http://www.ftc.gov/os/2003/10/innovation.pdf.

[57] "Realism" is a school of thought that emphasizes the centrality of power and interests as the decisive factors that influence state behavior in international matters. See: Hans J. Morgenthau, ***Power Among Nations: The Struggle for Power and Peace*** (5th edition, Alfred A. Knopf, 1978).

[58] See: Jack L. Goldsmith and Eric A. Posner, ***The Limits of International Law*** (Oxford University Press, 2005). Extending the tenets of rational choice theory to the sphere of international law, the authors argue that states behave "rationally to maximize their interests, given their perceptions of interests of other states and the distribution of state power."[page 3].

[59] This is acknowledged at the governmental level. For a comprehensive study of the inter-relationship between antitrust law and competition law, see U.S.DEP' T OF JUSTICE & FED.TRADE COMM' N, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION (2007). Available at: http://www.ftc.gov/reports/innovation/PO40101PromotingInnovationandCompetition.pt0704.pdf.

Also see the ***Intellectual Property Policy Outline*** issued by the Japanese Government on July 3, 2002 which states:

> 3. Although strengthening intellectual property is inevitable in the information age, and as a nation we should make efforts toward this goal, the strengthening of rights also brings with it adverse effects such as

3. One striking feature of the issue of business method patents has been the influential role that the judgments of U.S. Courts have played in propelling the issue to worldwide prominence.

As explained earlier, the present state of the law in the United Kingdom relating to this issue was laid down in the joint judgment of the U.K. Court of Appeals (Civil Division) in the cases of *Aerotel v. Telco* and *Macrossan's Application.* The present state of the law in Australia was laid down in the judgment of the Federal Court of Australia in *Grant v. Commisioner of Patents.* In both countries, the judgments reflect the careful attention that the judges paid to the judgments of the U.S. Courts.[60]

Even within the United States, although the USPTO had taken the lead in 1996 in directing claim examiners to treat business method claims no differently from other claims, it was the U.S. Court of Appeals' recognition of their validity in *State Street* that propelled the issue to prominence nationally, and due to the international ramifications of the issue, internationally, too. The imprimatur of the U.S. Supreme Court in *Bilski v. Kappos* also received widespread attention.

This leads to a few issues to consider. The first is that the common law countries among the world' s leading democracies share two established features: the independence of the judiciary, and the authority of the judiciary to interpret and lay down the law.[61] In matters relating to substance in particular, the precise state of the law will always be subject to judicial interpretation. This renders governmental intentions to harmonize

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obstacles to the principle of competition due to monopoly, the abuse of dominant bargaining position and the conflict between intellectual property and the basic values granted in modern society such as freedom of expression.
Intellectual Property Policy Outline, Strategic Council on Intellectual Proparty, July 3, 2002, *supra* note 3.

[60] In the U.K. Court of Appeals judgment, the U.S.cases cited and discussed were: *Diamond v. Chakrabarty* 447 U.S. 303, *In Re: Alappat* 33 F.3d 1526; and *State Street Bank v. Signature Financial Group,* 149 F.3d 1368. In the Federal Court of Australia' s judgment the U.S.cases cited and discussed were *Diamond v. Diehr* 450 U.S. 175; *State Street Bank & Trust Co., v. Signature Financial Group Inc.,* 149 F.3d.1368; and *AT&T Corp v. Excel Communications, Inc.* 172 F.3d.1352.

[61] In the United States, the principle has been firmly entrenched since *Marbury v. Madison,* 5 U.S. (1 Cranch) 137, (1803). In the words of Chief Justice Marshall: "It is emphatically the province and duty of the Judicial Department to say what the law is. Those who apply the rule to particular cases must, of necessity expound and interpret that rule."(177-178).

the laws always open to alteration by judicial interpretation.[62]

The second is regarding the extent to which judges are likely to be influenced by the judgments of courts in other countries.[63] This question has particular importance in the case of patents. In an illuminating article in the Yale Law Journal,[64] Peter Lee points out the difficulties that generalist judges encounter when dealing with complex technical issues relating to science and technology. Drawing upon the reference made by C.P. Snow in his famous lecture "The Two Cultures" to the chasm that sometimes divides the literary and scientific worlds, Lee persuasively argues that patent law which lies at the intersection of science and law places unusual pressures upon most judges who lack specialized training in science and technology. Given this special situation with regard to patent law, and the independence of the judiciary in the leading democracies, the cross-pollination of judicial ideas and the transnational influence of judges would play a role in governmental efforts at harmonizing patent laws.

The subject of business method patents would have the effect of compounding this problem because of the different cultural perceptions regarding matters relating to business in different countries and the influence that such cultural conditioning will have on judicial interpretation.

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[62] Justice Holmes propounded the idea of "legal fallibilism," an extension of an idea from pragmatic epistemology, whereby the law was viewed as "the development of a consensual understanding, expressed in rules and principles," and the legal process was "an extended intergenerational process of inquiry." I rely here on Frederic R. Kellogg, *Legal Fallibilism: Law (like Science) as a Form of Community Inquiry.* Available at SSRN: http://ssrn.com/abstract=1484623.

[63] In this regard, a former Justice of the Canadian Supreme Court has commented:

> [T]he process of international influence has changed from reception to Dialogue. Judges no longer simply receive the cases of other jurisdictions and then apply them or modify them for their own jurisdiction. Rather, cross-pollination and dialogue between jurisdictions is increasingly occurring. Claire L' Heurreux-Dube, ***The Importance of Dialogue: Globalization and the International Impact of the Rehnquist Court,*** 34 Tulsa Law Journal 15, 17 (1998).

See also: Bruce Ackerman ***The Rise of World Constitutionalism,*** 83 Virginia Law Review 771 (1997), in which Ackerman notes the recent cross-citations by courts and the absence of any obligation on the part of the Courts to do so;. Robert Badinter and Stephen Breyer, editors, ***Judges in Contemporary Democracy: An International Conversation*** (NYU Press, 2004).

[64] Peter Lee, ***Patent Law and the Two Cultures,*** 120 Yale Law Journal 2 (2010).

VI. Conclusion:

The project to effectuate the international harmonization of intellectual property laws generally, and patent laws in particular, is commendable. However, it is fraught with difficulties. Apart from the inevitable political and economic factors that come into play in matters relating to international treaties and conventions, there are also scientific and technological issues, which further complicate the efforts. The uneven scientific and technological development of countries across the world is not conducive to the task of harmonization. Apart from efforts to effectuate harmonization at the governmental level, it is important not to discount the importance of the role that the judiciary plays in shaping the law of a nation. This is amply evident with regard to business method patents. So also, the rapidity and oftentimes surprising progress of scientific and technological development makes charting the course of patent laws going forward a task of insuperable difficulty. The matter of subject matter patents will only compound the difficulty. The pursuit of self-interest that is inevitable in matters relating to international affairs leads to the reasonable belief that harmonization is an achievable goal only when the interests of countries are aligned. For now, progress is likely to be made most effectively in incremental steps among countries in geographical proximity and among groups of countries of comparable economic and scientific development sharing a commonality of interests.

ビジネス方法の特許と特許法の国際調和

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（2011年11月1日受付、2011年12月14日受理）

要　約

特許法は、知的所有権法の一種であるが、商標やコピーライト、産業デザイン、企業秘密に関する法律にまで、範囲が含むものである。発明者の発明の使用に関する権利を認め、それ故に知識や産業発展と同様に、技術革新と創造性を促進するものである。知が基盤となる経済の到来に伴って、知的所有権は、国家が国際競争を維持し、経済成長を促進する手段としての重要性を認めたように、それが強調されてきている。それと同時に、テクノロジーや技術革新のための、統一され、安定した世界規模の環境を整えようとして、知的所有権法の国際調和を促す動きも出てきている。知的財産のそれぞれの構成要素に関係する法律を調和する試みは、それぞれの所で進められてきていた。特許法の手続きにまつわる側面から調和使用という試みは、2005年に施行された特許法条約によって大幅な進歩を遂げた。しかしながら、特許法の実体を調和する試みは、ゆっくりと進んできている。特許法の実体を調和する試みを複雑にしている新たな要因の一つは、元々の特許の範囲であった科学やテクノロジーの技術革新に加え、特許的な内容としてビジネス方法が近年認められたためである。ビジネス方法特許は、1998年に米連邦特別行政高裁のState Street Bank and Trust Co. v. Signature Financial Group判決の後に、表に出てきた。その妥当性は、2010年の米連邦最高裁判所のBilski v. Kappos.の事例によって、確認された。ビジネス方法の特許の問題は、世界中の注目を集め、日本を含む様々な国が、その問題を扱うための様々なアプローチを発展させてきている。この論文では、ビジネス法特許に関するいくつかの考察と、特許法の国際調和のため関する推論について述べていくものとする。